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CURRENT NOTES ON METEOROLOGY.

METEOROLOGICAL BIBLIOGRAPHY.

To the 'Note on Meteorological Bibliographies,' published in *SCIENCE* for December 18, p. 795, there should have been added a reference to one other publication which contains a valuable list of titles in physics and meteorology. This is the *Fortschritte der Physik, Halbmonatliches Litteraturverzeichnis*, an octavo publication, issued twice a month, now in its second year. The *Fortschritte der Physik*, already well known in this country, contains reviews of publications in astrophysics, meteorology and geophysics, but the *Fortschritte* necessarily appears some time after the date of the books and articles reviewed therein. The object of the new *Halbmonatliches Litteraturverzeichnis* is to publish the titles of all physical books and articles immediately after their issue, and without reference to the later reviews in the larger volumes of the *Fortschritte*. The matter is in the hands of the Deutsche Physikalische Gesellschaft, the editor for 'Cosmical Physics' being the well-known meteorologist, Dr. Assmann. No one can fail to appreciate the advantage of this bibliography, which appears frequently, is well edited, and will prove of the greatest service to meteorologists. It is altogether the best current meteorological bibliography published, although one could wish that an author catalogue were included, and that the same classification of subjects were used as in the 'International Catalogue' (or a better one). The price of the *Litteraturverzeichnis* is four Marks yearly.

CLOUD OBSERVATIONS IN INDIA.

OBSERVATIONS of the movements of the upper clouds were made at six stations in India during the period 1895-1900, and the results are now discussed by Sir John Eliot in Vol. XV., Pt. I., of the Indian Meteorological Memoirs (pp. 112, Pls. XII., Calcutta, 1903). Nephoscopes of the Finemann pattern were used. No observations of altitude are included. The discussion concerns the directions of movement of each cloud type at each station, during dry and wet seasons. These being the first considerable Indian contribu-

tions to the study of the upper air movements as shown by cloud directions, the results are especially noteworthy. The movement of cirrus and cirro-stratus clouds is remarkably steady at the four northern stations (Simla, Lahore, Jaipur and Allahabad) during the dry season, being from almost due west, *i. e.*, in accordance with theory. The number of observations at Vizagapatam and Madras is small, but the indications are that the upper air movement recurves from southeast through south to southwest in the southern portions of India, also in general accordance with theory. The lower as well as the upper air movement is from west over the whole of northern and central India during the dry season, the direction of movement of the alto-cumulus, cumulus and cumulo-nimbus being almost as regular as that of the upper clouds, but more southerly. During the rainy season there is great variability and unsteadiness in the cloud movement up to the elevation of the highest cirrus at Allahabad, which is in the center of the Indian trough of low pressure at that season. Photogrammetric observations at Allahabad in 1898-1900 showed that the mean altitude of the cirrus in the rainy season is 32,654 feet. Hence it appears that the unsteady movement in the monsoon trough extends up to 30,000 feet at least, and perhaps even to 40,000 feet. The regular movement in the higher atmosphere (from west to east) is then suspended, or else occurs at a greater elevation than in the dry season.

AIR PRESSURES IN INDIA.

VOL. XVI., Pt. I., of the 'Indian Meteorological Memoirs' contains the "Normals of the Air Pressure Reduced to 32° F. and Constant Gravity, Lat. 45,' by Sir John Eliot. The memoir includes the monthly and annual means of the barometric observations at all observatories in India which have been in operation at least twenty years. At most of the observatories, the observations date from 1875, when the department was 'imperialized.' In June, 1878, the government of India sanctioned arrangements for the publication of a daily weather report, which included observations made at 10 A.M., at about 100 stations.

The hour was later changed to 8 A.M. It is to be noted that certain persistent discrepancies appear when the observations, after reduction to sea-level, are compared, the most noteworthy cases being those of stations which are more or less completely shut in by hills of considerable elevation. The result of this condition is to check somewhat the horizontal movement of the air, and to give too high a pressure during the morning. At the three stations where this topographic effect is most marked the excess of pressure averages about .02 inch at 8 A.M.

NOTE.

It is well known that the winter snowfall is a great help in lumbering operations in our northern forests, for it greatly facilitates the labor of hauling out the trees. In a recent article on the 'Forest School at Biltmore' (*Forestry and Irrigation*, November), Dr. Schenck notes, among the disadvantages of the Biltmore forest tracts, the lack of winter snows, which allow 'cheap sleighing to take the place of expensive wagoning.'

R. DE C. WARD.

THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS.

THE twentieth annual meeting of the association was held at the Columbian University, Washington, D. C., on November 19, 20, 21, with an attendance of 150, the largest on record. A large part of the meeting was devoted to the reports of the referees and associate referees on the analysis of foods. Dr. William Frear, as chairman of the committee on pure food standards, reported that those on meats and the principal meat products, milk and its products, sugars and related substances, condiments (except vinegar), and cocoa products, were ready for adoption as official and the proclamation so declaring them was signed by Secretary Wilson on November 21. The circular containing these standards is now in press and will be ready for distribution in a short time.

Slight changes were made in the official methods for the analysis of sugars and insecticides and a new division of the work was created by a motion to appoint a referee on

drugs. A resolution was adopted requesting the Bureau of Standards through its chemist to participate in the work of the referees fixing standard methods of analysis. The committee on fertilizer legislation was instructed to prepare a bill for submission to Congress regulating interstate commerce in fertilizers and fertilizing materials.

The executive committee was given permission to call the meeting of the association next year at St. Louis and there is every probability that such action will be taken. The officers elected are as follows:

President—M. E. Jaffa, Berkeley, Cal.

Vice-President—C. L. Penny, Newark, Del.

Secretary—H. W. Wiley, Washington, D. C.

Additional Members of the Executive Committee—W. P. Headden, Fort Collins, Colo.; W. R. Perkins, Agricultural College, Mass.

SCIENTIFIC NOTES AND NEWS.

MR. SHYAMAJI KRISHNAVARMA, of India, has offered \$5,000 to Oxford University to establish a lectureship in honor of Herbert Spencer to be known as the Spencer Lectureship.

THE prize for French contributions to science given by M. Osiris through the Paris Press Association has been divided between Mme. Curie and M. Branly. Mme. Curie receives 60,000 francs for her work on radium and M. Branly 40,000 francs for his work in connection with wireless telegraphy.

THE sixtieth birthday of Dr. Robert Koch was celebrated on December 11. A portrait bust was unveiled in the Institute for Infectious Diseases, Berlin, a museum for bacteriology was established and a *Festschrift* is in press. Dr. Koch expects to return from South Africa in March.

At the St. Louis meeting of the Astronomical and Astrophysical Society of America the following officers, including those who hold over, were elected for the ensuing year: *President*, Simon Newcomb; *First Vice-President*, George E. Hale; *Second Vice-President*, W. W. Campbell; *Secretary*, George C. Comstock; *Treasurer*, C. L. Doolittle; *Councilors*, Ormond Stone, W. S. Eichelberger, E. C. Pickering, R. S. Woodward.